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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/552,228  
Filing Date: October 06, 2005  
Appellant(s): PEETZ ET AL.

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Brian S. Myers  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed October 29<sup>th</sup>, 2010 appealing from the Office action mailed June 7<sup>th</sup>, 2010.

**(1) Real Party in Interest**

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The following is a list of claims that are rejected and pending in the application:

Claims 1-15 are currently pending.

Claims 1-15 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of Du et al. (U.S. Patent No. 6,556,576) in view of Lewis (U.S. Patent 6,259,989) and Romans (U.S. Patent 6,665,520).

Claims 1-15 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-18 of Du et al. (U.S. Patent No. 7,457,298) in view of Lewis (U.S. Patent 6,259,989) and Romans (U.S. Patent 6,665,520).

Claims 1-2, 5-6, 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ekl et al. (U.S. Patent 6,816,502) in view of Lewis (U.S. Patent 6,259,898) and Romans (U.S. Patent 6,665,520).

Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ekl et al. (U.S. Patent 6,816,502), Lewis (U.S. Patent 6,259,898), and Romans (U.S. Patent 6,665,520) as applied to claims 1 and 5 and further in view of Adachi (U.S. Patent 6,018,642).

Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ekl et al. (U.S. Patent 6,816,502) in view of Lewis (U.S. Patent 6,259,898) and Romans (U.S. Patent 6,665,520) as applied to claims 1 and 5 and further in view of admitted prior art.

#### **(4) Status of Amendments After Final**

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

#### **(5) Summary of Claimed Subject Matter**

The examiner has no comment on the summary of claimed subject matter contained in the brief.

#### **(6) Grounds of Rejection to be Reviewed on Appeal**

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except

for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

#### **(7) Claims Appendix**

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

#### **(8) Evidence Relied Upon**

U.S. Patent 6,556,576	Du et al.	04-2003
U.S. Patent 7,457,298	Du et al.	11-2008
U.S. Patent 6,816,502	Ekl et al.	11-2004
U.S. Patent 6,259,898	Lewis	07-2001
U.S. Patent 6,665,520	Romans	12-2003
U.S. Patent 6,018,642	Adachi	01-2000

#### **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

#### **Double Patenting**

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or

improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1-15 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of *Du et al.* (U.S. Patent No. 6,556,576) in view of *Lewis* (U.S. Patent 6,259,989) and *Romans* (U.S. Patent 6,665,520).

Although the conflicting claims are not identical, they are not patentably distinct from each other because they both teach a communication network with a first subnet and a second subnet and a bridge terminal for connecting the first and second subnets; wherein the bridge terminal is unavailable for the first subnet when it is operated in the second subnet; wherein the bridge terminal is unavailable for the second subnet when it is operated in the first subnet (see claim 1). Claim 1 does not teach signaling the switching operation. However, Lewis from the same or similar fields of endeavor discloses a wireless access point (see figure 2, access point 19) that communicates with different subsets of mobile stations (see figure 1, MT 21). The access point 19 broadcasts a beacon that indicates the availability of the access point (see column 6 lines 48-59). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the beacon that indicates the availability of the access point as taught by Lewis with the system that communicates with two sets mobile terminals at different periods as taught by Du et al. The access point may use the beacon to indicate to one set of mobile terminals that the access point is no longer available when the access point is exclusively communicating with the other set of mobile terminals. The motivation for using the beacon that indicates the availability of an access point with the access point that provides exclusive access to each subset of users at different time periods is to improve the efficiency of the network by limiting the registration periods used by mobile terminals.

Du et al. and Lewis disclose all the subject matter of the claimed invention with the exception wherein signaling the switching operation and the unavailability of the bridge terminal specifically comprises a power saving signal of the communication network. However, Romans from the same or similar fields of endeavor discloses a control terminal in a wireless network

that transmits control point beacon (CPB) (see column 3 lines 29-49 and figures 1-4). The control point beacon includes a wakeup flag that indicates whether a terminal should remain in active mode or return to a low power mode (see column 6 lines 14-32 and figures 2-4). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the beacon that indicates whether a terminal should remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Du et al. and Lewis. The beacon that indicates the switching operation as taught by Du et al. and Lewis can be configured to indicate that a terminal should return to a lower power mode as taught by Romans when the access point is unavailable for that terminal. The motivation for using the beacon that indicates whether a terminal should remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Du et al. and Lewis is to improve the efficiency of the system by allowing terminals to use a low power mode when communication with the access point is unavailable.

3. Claims 1-15 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-18 of Du et al. (U.S. Patent No. 7,457,298) in view of Lewis (U.S. Patent 6,259,989) and Romans (U.S. Patent 6,665,520).

Although the conflicting claims are not identical, they are not patentably distinct from each other because they both teach a communication network with a first subnet and a second subnet and a bridge terminal for connecting the first and second subnets; wherein the bridge terminal is unavailable for the first subnet when it is operated in the second subnet; wherein the



bridge terminal is unavailable for the second subnet when it is operated in the first subnet (see claim 1). Claim 1 does not teach signaling the switching operation. However, Lewis from the same or similar fields of endeavor discloses a wireless access point (see figure 2, access point 19) that communicates with different subsets of mobile stations (see figure 1, MT 21). The access point 19 broadcasts a beacon that indicates the availability of the access point (see column 6 lines 48-59). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the beacon that indicates the availability of the access point as taught by Lewis with the system that communicates with two sets mobile terminals at different periods as taught by Du et al. The access point may use the beacon to indicate to one set of mobile terminals that the access point is no longer available when the access point is exclusively communicating with the other set of mobile terminals. The motivation for using the beacon that indicates the availability of an access point with the access point that provides exclusive access to each subset of users at different time periods is to improve the efficiency of the network by limiting the registration periods used by mobile terminals.

Du et al. and Lewis disclose all the subject matter of the claimed invention with the exception wherein signaling the switching operation and the unavailability of the bridge terminal specifically comprises a power saving signal of the communication network. However, Romans from the same or similar fields of endeavor discloses a control terminal in a wireless network that transmits control point beacon (CPB) (see column 3 lines 29-49 and figures 1-4). The control point beacon includes a wakeup flag that indicates whether a terminal should remain in active mode or return to a low power mode (see column 6 lines 14-32 and figures 2-4). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to

use the beacon that indicates whether a terminal should remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Du et al. and Lewis. The beacon that indicates the switching operation as taught by Du et al. and Lewis can be configured to indicate that a terminal should return to a lower power mode as taught by Romans when the access point is unavailable for that terminal. The motivation for using the beacon that indicates whether a terminal should remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Du et al. and Lewis is to improve the efficiency of the system by allowing terminals to use a low power mode when communication with the access point is unavailable.

### **Claim Rejections - 35 USC § 103**

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
7. Claims 1-2, 5-6, 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ekl et al. (U.S. Patent 6,816,502) in view of Lewis (U.S. Patent 6,259,898) and Romans (U.S. Patent 6,665,520).

**For claim 1**, Ekl et al. disclose a method of connecting a first subnet and a second subnet of a communication network by means of a bridge terminal, wherein the first subnet operates on a first frequency channel and the second subnet operates on a second frequency channel (see column 2 lines 1-5, which recite an access point AP100 that communicates with at least two sets of users wherein the different sets of users operate on different frequency channels), the method comprising the steps of: switching an operation of the bridge terminal between an operation in the first subnet on the first frequency channel and an operation in the second subnet on the second frequency channel; wherein the bridge terminal is unavailable for the first subnet when it is operated in the second subnet; wherein the bridge terminal is unavailable for the second subnet

when it is operated in the first subnet (see figure 2, which recite the access point communicating exclusively with one set of users before communicating exclusively with another set of users).

Ekl et al. disclose all the subject matter of the claimed invention with the exception of signaling the switching operation. However, Lewis from the same or similar fields of endeavor discloses a wireless access point (see figure 2, access point 19) that communicates with different subsets of mobile stations (see figure 1, MT 21). The access point 19 broadcasts a beacon that indicates the availability of the access point (see column 6 lines 48-59). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the beacon that indicates the availability of the access point as taught by Lewis with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. The access point that provides exclusive access to each subset of mobile terminals at different time periods as taught by Ekl et al. can be configured to broadcast the beacon that indicates the availability of the access point as taught by Lewis when the access point alternates access between the different user groups to indicate the switching operation. Since the access point as taught by Ekl et al. provides communication exclusively with one set of mobile terminals at while remaining unavailable for the other set of mobile terminals, a beacon that indicates availability of the access point for one set of mobile terminals conversely indicates that the access point is unavailable for the second set of mobile terminals. Thus, the access point may use the beacon to indicate to one set of mobile terminals that the access point is no longer available when the access point is exclusively communicating with the other set of mobile terminals. The motivation for using the beacon that indicates the availability of an access point with the access point that provides exclusive access to each subset of users at different time

periods is to improve the efficiency of the network by limiting the registration periods used by mobile terminals.

Ekl et al. and Lewis disclose all the subject matter of the claimed invention with the exception wherein signaling the switching operation and the unavailability of the bridge terminal specifically comprises a power saving signal of the communication network. However, Romans from the same or similar fields of endeavor discloses a control terminal in a wireless network that transmits control point beacon (CPB) (see column 3 lines 29-49 and figures 1-4). The control point beacon includes a wakeup flag that indicates whether a terminal should remain in active mode or return to a low power mode (see column 6 lines 14-32 and figures 2-4). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the beacon that indicates whether a terminal should remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. and Lewis. The beacon that indicates the switching operation as taught by Ekl et al. and Lewis can be configured to indicate that a terminal should return to a lower power mode as taught by Romans when the access point is unavailable for that terminal. The motivation for using the beacon that indicates whether a terminal should remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. and Lewis is to improve the efficiency of the system by allowing terminals to use a low power mode when communication with the access point is unavailable.

**For claims 2, 6, and 10,** Ekl et al. disclose a method of connecting a first subnet and a second subnet of a communication network by means of a bridge terminal, wherein the

communication network is a packet transmission network in accordance with the IEEE 802.11 standard (see column 1 lines 11-17).

**For claim 5**, Ekl et al. disclose a Bridge terminal for connecting a first subnet and a second subnet of a communication network, wherein the first subnet operates on a first frequency channel and the second subnet operates on a second frequency channel (see column 2 lines 1-5, which recite an access point AP100 that communicates with at least two sets of users wherein the different sets of users operate on different frequency channels), wherein an operation of the bridge terminal is switches between an operation in the first subnet on the first frequency channel and an operation in the second subnet on the second frequency channel; wherein the bridge terminal is unavailable for the first subnet when it is operated in the second subnet; wherein the bridge terminal is unavailable for the second subnet when it is operated in the first subnet; wherein the unavailability of the bridge terminal is signaled by means of a power saving signal of the communication network (see figure 2, which recite the access point communicating exclusively with one set of users before communicating exclusively with another set of users).

Ekl et al. disclose all the subject matter of the claimed invention with the exception of signaling the switching operation. However, Lewis from the same or similar fields of endeavor discloses a wireless access point (see figure 2, access point 19) that communicates with different subsets of mobile stations (see figure 1, MT 21). The access point 19 broadcasts a beacon that indicates the availability of the access point (see column 6 lines 48-59). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the beacon that indicates the availability of the access point as taught by Lewis with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. The

access point that provides exclusive access to each subset of mobile terminals at different time periods as taught by Ekl et al. can be configured to broadcast the beacon that indicates the availability of the access point as taught by Lewis when the access point alternates access between the different user groups to indicate the switching operation. Since the access point as taught by Ekl et al. provides communication exclusively with one set of mobile terminals at while remaining unavailable for the other set of mobile terminals, a beacon that indicates availability of the access point for one set of mobile terminals conversely indicates that the access point is unavailable for the second set of mobile terminals. Thus, the access point may use the beacon to indicate to one set of mobile terminals that the access point is no longer available when the access point is exclusively communicating with the other set of mobile terminals. The motivation for using the beacon that indicates the availability of an access point with the access point that provides exclusive access to each subset of users at different time periods is to improve the efficiency of the network by limiting the registration periods used by mobile terminals.

Ekl et al. and Lewis disclose all the subject matter of the claimed invention with the exception wherein signaling the switching operation and the unavailability of the bridge terminal specifically comprises a power saving signal of the communication network. However, Romans from the same or similar fields of endeavor discloses a control terminal in a wireless network that transmits control point beacon (CPB) (see column 3 lines 29-49 and figures 1-4). The control point beacon includes a wakeup flag that indicates whether a terminal should remain in active mode or return to a low power mode (see column 6 lines 14-32 and figures 2-4). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to

use the beacon that indicates whether a terminal should remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. and Lewis. The beacon that indicates the switching operation as taught by Ekl et al. and Lewis can be configured to indicate that a terminal should return to a lower power mode as taught by Romans when the access point is unavailable for that terminal. The motivation for using the beacon that indicates whether a terminal should remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. and Lewis is to improve the efficiency of the system by allowing terminals to use a low power mode when communication with the access point is unavailable.

**For claim 9,** Ekl et al. disclose a communication network with a first subnet and a second subnet and a bridge terminal for connecting the first and second subnets, wherein the first subnet operates on a first frequency channel and the second subnet operates on a second frequency channel (see column 2 lines 1-5, which recite an access point AP100 that communicates with at least two sets of users wherein the different sets of users operate on different frequency channels); wherein an operation of the bridge terminal is switched between an operation in the first subnet on the first frequency channel and an operation in the second subnet on the second frequency channel; wherein the bridge terminal is unavailable for the first subnet when it is operated in the second subnet; wherein the bridge terminal is unavailable for the second subnet when it is operated in the first subnet; wherein the unavailability of the bridge terminal is signaled by means of a power saving signals of the communication network (see figure 2, which



recite the access point communicating exclusively with one set of users before communicating exclusively with another set of users).

Ekl et al. disclose all the subject matter of the claimed invention with the exception of signaling the switching operation. However, Lewis from the same or similar fields of endeavor discloses a wireless access point (see figure 2, access point 19) that communicates with different subsets of mobile stations (see figure 1, MT 21). The access point 19 broadcasts a beacon that indicates the availability of the access point (see column 6 lines 48-59). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the beacon that indicates the availability of the access point as taught by Lewis with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. The access point that provides exclusive access to each subset of mobile terminals at different time periods as taught by Ekl et al. can be configured to broadcast the beacon that indicates the availability of the access point as taught by Lewis when the access point alternates access between the different user groups to indicate the switching operation. Since the access point as taught by Ekl et al. provides communication exclusively with one set of mobile terminals at while remaining unavailable for the other set of mobile terminals, a beacon that indicates availability of the access point for one set of mobile terminals conversely indicates that the access point is unavailable for the second set of mobile terminals. Thus, the access point may use the beacon to indicate to one set of mobile terminals that the access point is no longer available when the access point is exclusively communicating with the other set of mobile terminals. The motivation for using the beacon that indicates the availability of an access point with the access point that provides exclusive access to each subset of users at different time

periods is to improve the efficiency of the network by limiting the registration periods used by mobile terminals.

Ekl et al. and Lewis disclose all the subject matter of the claimed invention with the exception wherein signaling the switching operation and the unavailability of the bridge terminal specifically comprises a power saving signal of the communication network. However, Romans from the same or similar fields of endeavor discloses a control terminal in a wireless network that transmits control point beacon (CPB) (see column 3 lines 29-49 and figures 1-4). The control point beacon includes a wakeup flag that indicates whether a terminal should remain in active mode or return to a low power mode (see column 6 lines 14-32 and figures 2-4). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the beacon that indicates whether a terminal should remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. and Lewis. The beacon that indicates the switching operation as taught by Ekl et al. and Lewis can be configured to indicate that a terminal should return to a lower power mode as taught by Romans when the access point is unavailable for that terminal. The motivation for using the beacon that indicates whether a terminal should remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. and Lewis is to improve the efficiency of the system by allowing terminals to use a low power mode when communication with the access point is unavailable.

**For claim 11**, Elk et al. disclose a machine readable medium having stored thereon machine executable instructions (see column 6 lines 45-62) that, when executed, implement a

method for operating a bridge terminal of a communication network for connecting a first subnet and a second subnet, wherein the first subnet operates on a first frequency channel and the second subnet operates on a second frequency channel (see column 2 lines 1-5, which recite an access point AP 100 that communicates with at least two sets of users wherein the different sets of users operate on different frequency channels), wherein, when the instructions are executed on the bridge terminal, the instructions cause the bridge terminal to perform the following steps: switching an operation of the bridge terminal between an operation in the first subnet on the first frequency channel and an operation in the second subnet on the second frequency channel; wherein the bridge terminal is unavailable for the first subnet when it is operated in the second subnet; wherein the bridge terminal is unavailable for the second subnet when it is operated in the first subnet; signaling the unavailability of the bridge terminal by means of a power saving signals of the communication network (see figure 2, which recite the access point communicating exclusively with one set of users before communicating exclusively with another set of users).

Ekl et al. disclose all the subject matter of the claimed invention with the exception of signaling the switching operation. However, Lewis from the same or similar fields of endeavor discloses a wireless access point (see figure 2, access point 19) that communicates with different subsets of mobile stations (see figure 1, MT 21). The access point 19 broadcasts a beacon that indicates the availability of the access point (see column 6 lines 48-59). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the beacon that indicates the availability of the access point as taught by Lewis with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. The

access point that provides exclusive access to each subset of mobile terminals at different time periods as taught by Ekl et al. can be configured to broadcast the beacon that indicates the availability of the access point as taught by Lewis when the access point alternates access between the different user groups to indicate the switching operation. Since the access point as taught by Ekl et al. provides communication exclusively with one set of mobile terminals at while remaining unavailable for the other set of mobile terminals, a beacon that indicates availability of the access point for one set of mobile terminals conversely indicates that the access point is unavailable for the second set of mobile terminals. Thus, the access point may use the beacon to indicate to one set of mobile terminals that the access point is no longer available when the access point is exclusively communicating with the other set of mobile terminals. The motivation for using the beacon that indicates the availability of an access point with the access point that provides exclusive access to each subset of users at different time periods is to improve the efficiency of the network by limiting the registration periods used by mobile terminals.

Ekl et al. and Lewis disclose all the subject matter of the claimed invention with the exception wherein signaling the switching operation and the unavailability of the bridge terminal specifically comprises a power saving signal of the communication network. However, Romans from the same or similar fields of endeavor discloses a control terminal in a wireless network that transmits control point beacon (CPB) (see column 3 lines 29-49 and figures 1-4). The control point beacon includes a wakeup flag that indicates whether a terminal should remain in active mode or return to a low power mode (see column 6 lines 14-32 and figures 2-4). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to

use the beacon that indicates whether a terminal should remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. and Lewis. The beacon that indicates the switching operation as taught by Ekl et al. and Lewis can be configured to indicate that a terminal should return to a lower power mode as taught by Romans when the access point is unavailable for that terminal. The motivation for using the beacon that indicates whether a terminal should remain in wakeup mode or return to a lower power mode as taught by Romans with the system that communicates with two sets mobile terminals at different periods as taught by Ekl et al. and Lewis is to improve the efficiency of the system by allowing terminals to use a low power mode when communication with the access point is unavailable.

**For claims 12-15**, Ekl et al. disclose a method of connecting a first subnet and a second subnet of a communication network by means of a bridge terminal, wherein a presence time of the bridge terminal in each of the subnets is set to a mean presence time, a presence time is equal for both the first subnet and the second subnet, thereby avoiding delays in data transmission (see column 3 lines 58-67 and column 4 lines 1-18, which recite the amount of time the access point communicates with each set of mobile terminals is potentially but not necessarily equal).

8. Claims 3 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ekl et al. (U.S. Patent 6,816,502), Lewis (U.S. Patent 6,259,898), and Romans (U.S. Patent 6,665,520) as applied to claims 1 and 5 and further in view of Adachi (U.S. Patent 6,018,642).

**For claims 3 and 7**, Ekl et al., Lewis, and Romans disclose a method of connecting a first subnet and a second subnet of a communication network by means of a bridge terminal,

wherein the operation of the bridge terminal is switches periodically between the first and second subnets such that the bridge terminal is operated in each of the first and second subnets for a predetermined duration (see abstract and figure 4). Ekl et al., Lewis, and Romans do not specifically disclose the method wherein jitters in the predetermined duration are compensated over a plurality of switching cycles by controlling the switching. However, Adachi from the same or similar fields of endeavor disclose a communication system comprising a base station and two sets of mobile stations (see figure 1, 5, and column 3 lines 36-67). The base station compensates for jitter that occurs during the periods of operation with the mobile stations (see column 18 lines 60-67 and column 19 lines 1-23). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to implement the base station that compensates for jitter as taught by Adachi with the method of connecting a first subnet and a second subnet of a communication network by means of a bridge terminal as taught by Ekl et al., Lewis, and Romans. The base station that compensates for jitter can be implemented by configuring the access points as taught by Ekl et al. to compensate for jitter as suggested by Adachi. The motivation for using the base station that compensates for jitter as suggested by Adachi with the method of connecting a first subnet and a second subnet of a communication network by means of a bridge terminal is to improve the efficiency of the system by preventing delay in the data transmission.

9. Claims 4 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ekl et al. (U.S. Patent 6,816,502) in view of Lewis (U.S. Patent 6,259,898) and Romans (U.S. Patent 6,665,520) as applied to claims 1 and 5 and further in view of admitted prior art.

**For claims 4 and 8**, Ekl et al., Lewis, and Romans disclose a method of connecting a first subnet and a second subnet of a communication network by means of a bridge terminal. Ekl et al. and Lewis does not disclose the method wherein a content of missed beacon signals is reported by the bridge terminal by means of a probe/probe signaling. However, the admitted prior art discloses a probe-P/response mechanism provided by the IEEE 802.11 standard in the case of a missed beacon (see page 12 lines 2-10). Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use the probe-P/response mechanism as provided by the IEEE 802.11 standard with the method of connecting a first subnet and a second subnet of a communication network by means of a bridge terminal as taught by Ekl et al. and Lewis. The probe-P/response mechanism can be implemented by ensuring that the method for connecting a first subnet and a second subnet of a communication network by means of a bridge terminal complies the IEEE 802.11 standard. The motivation for using the IEEE 802.11 standard and provided probe-P/response mechanism with the method of connecting a first subnet and a second subnet of a communication network by means of a bridge terminal is to ensure that the method is compatible with a wide range of wireless devices.

#### **(10) Response to Argument**

Regarding claim 1, the Appellants argue against the secondary reference of Lewis:

As understood from the above citation, the beacons operable in Lewis' access point merely indicate whether a mobile terminal can register to the first transceiver or second transceiver. That is, whether a mobile terminal can communicate with the access point over the first or second channel. Further, Lewis teaches that mobile terminals can communicate on both channels. Thus, a mobile station can always register with the access point (either in the first or second transceiver), and the access point is always available for the mobile devices. Thus, the beacon, as disclosed by

Lewis, does not signal the switching operation between subnets and further does not signal the unavailability for the first subnet when operating in the second subnet, in contrast to what is claimed by the Appellants (*see page 8 of the Appellants' Appeal Brief*).

In response to Appellants' arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Specifically, it is initially noted that the claim is rejected under 35 U.S.C. 103(a) as being unpatentable over Ekl et al. (U.S. Patent 6,816,502) in view of Lewis (U.S. Patent 6,259,898) and Romans (U.S. Patent 6,665,520).

Regarding the primary reference of the rejection, the Appellants acknowledge that:

Specifically, Ekl appears to teach an access point that transmits at least a first set of parameters intended for a first set of users and a second set of parameters intended for a second set of users. The access point communicates with the first set of users during a first time period and communicates with the second set of users during a second time period. The first time period and the second time period are exclusive of each other. Ekl also teaches the determination of which mobile stations belong to a first set of users and which mobile stations belong to a second set of users for the group aggregate communication time performed using existing algorithms, as currently known in the art (*see page 9 of the Appellants' Appeal Brief*).

Thus, the primary reference, as acknowledged by the Appellants, discloses a bridge terminal that switches operation between a first subnet and a second subnet, wherein the bridge terminal is unavailable for the first subnet when it is operated in the second subnet, and wherein the bridge terminal is unavailable for the second subnet when it is operated in the first subnet as recited by the claim (*see Ekl et al., column 2 lines 1-5 and figure 2, which recite an access point*



AP100 that communicates exclusively with one set of users on one frequency channel before communicating exclusively with another set of users on a different frequency channel).

Regarding the secondary reference, the registration process as disclosed by Lewis in column 6 lines 48-58 describes:

In a passive type registration system, the processor 30 may cause the primary transceiver 36a to broadcast a beacon periodically, the beacon indicating whether registration is possible. A mobile terminal 21 desiring to register will receive such beacon and respond in a conventional manner. Upon such time that the primary transceiver 36a reaches the predefined limit, the processor 30 instructs the transceiver 36a to modify the beacon such that registrations are not possible. In its place, the processor 30 causes the transceiver 36b periodic beacon to indicate registration availability in order that mobile terminals may register via the secondary transceiver 36b (emphasis added).

Thus, the secondary reference of Lewis discloses a beacon from a base station that indicates the availability of a first transceiver using a first communication channel for registering mobile stations. When the first transceiver becomes unavailable, then the beacon is modified to indicate a switch to a second transceiver using a second communication channel for registering additional mobile stations. The primary reference of Ekl et al. is cited to teach the actual switching operation of the bridge terminal between a first subnet and a second subnet. The primary reference specifies that the two subnets do not operate simultaneously. The secondary reference of Lewis is combined with the primary reference to disclose the signaling of the actual switching operation using a beacon signal.

Regarding the Appellants' characterization of Lewis, the Appellants argue:

To support this conclusion Appellants respectfully point to column 6 lines 59-69 of Lewis which teaches that the registration process, using the beacons mentioned above, allows the first transceiver and the second

transceiver to communicate simultaneously with their respective mobile terminals.

A person skilled in the art should appreciate that allowing simultaneous transmissions on both the channels cannot be viewed or interpreted as switching the operation of the access point. The beacons indicate availability to register one of the transceivers of the access point and do not indicate the availability or the operation with regard to a group of mobile devices. In contrast to the claimed invention, the beacons and the registration process, as disclosed by Lewis, are designed to allow simultaneous transmission on both channels (subnets) (see pages 9 of the Appellants Appeal Brief).

The Appellants argue that since the first transceiver and the second transceiver of Lewis communicate simultaneously with their respective mobile terminals, then there can be no switching operation between a first subnet and a second subnet. However, as noted above, the primary reference of Ekl et al. disclose a bridge terminal that switches operation between a first subnet and a second subnet, wherein the bridge terminal is unavailable for the first subnet when it is operated in the second subnet, and wherein the bridge terminal is unavailable for the second subnet when it is operated in the first subnet. Since the bridge terminal as disclosed by Ekl et al. only operates exclusively under one subnet channel at a given time, then it must handle both communication and registration for a single subnet at a given time (i.e., it can not communicate with mobile stations of a first subnet while also handling registration for mobile stations of a second subnet). Therefore, any indication that a first subnet is available for registration also signals that the first subnet is available for communication with registered mobile stations. Conversely, any indication that the first subnet is not available for registration means that the bridge terminal is handling registration for a second subnet, and is therefore communicates exclusively with the second subnet.

Regarding the combination of the references, the Appellants argue:

Thus, even under the broadest interpretation of the references, Lewis' method can be utilized in the context of Ekl's disclosure merely to determine which mobile stations belong to the first or second set of users (see page 10 of the *Appellants'* Appeal Brief).

The Appellants acknowledge that the combination of Ekl and Lewis provides a network that determines which mobile stations belong to the first or second set of users. According to the bridge terminal disclosed by Ekl et al., once the mobile station registers with a subnet, then that mobile terminal can only communicate with that particular subnet when it is available.

Regarding the third reference, the Appellants argue:

That is, Romans teaches a power management method to reduce the power consumption of stations in the network. According to Romans, a CPB signals to stations that they should be ready for reception of data and does not signal whether the control point is available or unavailable. In fact, Romans states that the access point is always active, and just the stations can enter a sleep mode. Therefore, a station that should receive a message wakes up for reception of the message from the control point (see page 10 of the Appellants' Appeal Brief).

The Appellants argue that the network as disclosed by Romans does not signal whether the control point is available or unavailable. In response to Appellants' arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). As described above, the combination of Ekl et al. and Lewis is cited to disclose a beacon that indicates whether the bridge terminal is available to a first subnet or second subnet. Romans is additionally cited to modify the beacon signal to include a wakeup flag. Thus, when the bridge terminal becomes unavailable for one subnet during a time period, as disclosed by Ekl et

al. and Lewis, then the wakeup flag as disclosed by Romans can be used to command a mobile station to enter sleep mode.

Regarding the combination of Lewis and Romans, the Appellants argue:

The resulting beacons do not whatsoever provide any information with regard to the operation and availability of the bridge terminal (access point or control point as they appear in the references). As mentioned above, in both the Romans and Lewis the access point and the control point are always available to all stations in the network (see page 11 of the Appellants' Appeal Brief).

While the Appellants allege deficiencies in the secondary reference, the primary reference, as noted above, discloses a bridge terminal that switches between operation between a first subnet and a second subnet, wherein the bridge terminal is unavailable for the first subnet when it is operated in the second subnet, and wherein the bridge terminal is unavailable for the second subnet when it is operated in the first subnet. While the secondary references may suggest that communications may occur simultaneously, the registration period of the two subnets must still be mutually exclusive. Since the bridge terminal as disclosed by Ekl et al. operates only in one subnet at a time, then it can use the beacon indicating the switch between registration periods of the two subnets to indicate its availability to communicate with the two mobile station subnets.

Regarding the combination of Ekl et al. and Lewis, the Appellants argue:

The Examiner states that the motivation for using the beacon, that indicates the availability of an access point, with the access point that provides exclusive access to each subnet of users at different time periods is to improve the efficiency of the network by limiting the registration periods used by mobile terminals. However, this is different from and does not suggest Appellants' claimed invention (see page 11 of the Appellants' Appeal Brief).

In response to Appellants' argument that the motivation to combine the references to improve the efficiency of the network is different from the Appellants' claimed invention, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Regarding the combination of Ekl et al., Lewis, and Romans, the Appellants argue:

The Examiner states that that the motivation for using the beacon that indicates whether a terminal should remain in a wakeup mode or return to a lower power mode, as taught by Romans, with the system that communicates with two sets of mobile terminals at different periods, as taught by Ekl and Lewis, is to improve the efficiency of the system by allowing terminals to use a low power mode when communication with the access point is unavailable. It is respectfully submitted that the Examiner confuses the term "terminal" with the "bridge terminal" recited in claim 1. Romans' beacons indicate whether mobile stations should remain in a wakeup mode and not the control point (or bridge terminal). Thus, this is different from and does not suggest Appellants' claimed invention (see page 11 of the Appellants' *Appeal Brief*).

The Appellants allege that the Examiner confuses the term "terminal" with the bridge terminal" recited in claim 1. However, it is noted that the term "terminal" is used to refer to the mobile stations of the network disclosed by Ekl et al. By allowing the mobile station to enter a sleep mode when the bridge terminal is unavailable, the power used by the mobile terminals is conserved. Since the beacon signal allows mobile stations to conserve power, such a beacon is interpreted as a "power saving signal of the communication network" as disclosed by the claim.

Regarding the remaining claims, in view of the above, it is clear that the cited references discloses the claimed invention. Therefore, it is respectfully submitted that the final action has shown that the combination of Ekl, Lewis, and Romans supports a prima facie case for obviousness.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

**Conclusion**

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Ben H. Liu/

Examiner, Art Unit 2464

Conferees:

/Ricky Ngo/

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